



Integrate SAP Demand Signal Management with a Provider of Social Media Data

Applicable Releases:

SAP Demand Signal Management 1.0

Version 1.0

February 2013

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Document History

Document Version	Description
1.00	First official release of this guide

Author Bio



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Typographic Conventions

Type Style	Description
<i>Example Text</i>	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Cross-references to other documentation
Example text	Emphasized words or phrases in body text, graphic titles, and table titles
Example text	File and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
Example text	User entry texts. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example text>	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
EXAMPLE TEXT	Keys on the keyboard, for example, F2 or ENTER.

Icons






Icon	Description
	Caution
	Important
	Note
	Recommendation or Tip
	Example

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1. Business Scenario

Organizations can use social media data in different scenarios during decision making using analytics. We will describe the integration and configuration of one scenario using social media data such as consumer sentiments, positive and negative buzz about a product, and so on, in SAP Demand Signal Management. For this scenario, we are using SAP Social Media Analytics by NetBase as a provider of social media data.

2. Background Information

In this guide we describe how to connect to a provider of social media data (such as SAP Social Media Analytics by NetBase) using a Business Add-In (BAI) in SAP Demand Signal Management. A function module connects to an API and provides social media data through an InfoCube of type virtual InfoProvider at query runtime. In this guide we describe how a BEx Query can be called using different reporting tools such as Web Dynpro ABAP reports, SAP BusinessObjects Dashboard, or BEx Analyzer. To fully benefit from social media data, it must be used with other types of data that exist in SAP Demand Signal Management. We describe one example of using external sales data (such as point of sales data) in combination with social media data to analyze a drop in sales related to consumer sentiments about a specific brand or product.


3. Prerequisites

Depending on the provider of social media data, the data must be prepared and organized before it is integrated in SAP Demand Signal Management. In this guide we describe the integration with SAP Social Media Analytics by NetBase and we are configuring topics in the NetBase Insight Composer. Not all providers of social media data offer this functionality to determine consumer sentiments. If social media data is provided only at document level (actual texts related to a specific topic), you can use SAP Data Services to analyze the texts and determine positive or negative consumer sentiments. You can then configure a remote function call (RFC) connection to provide aggregated data to SAP Demand Signal Management.

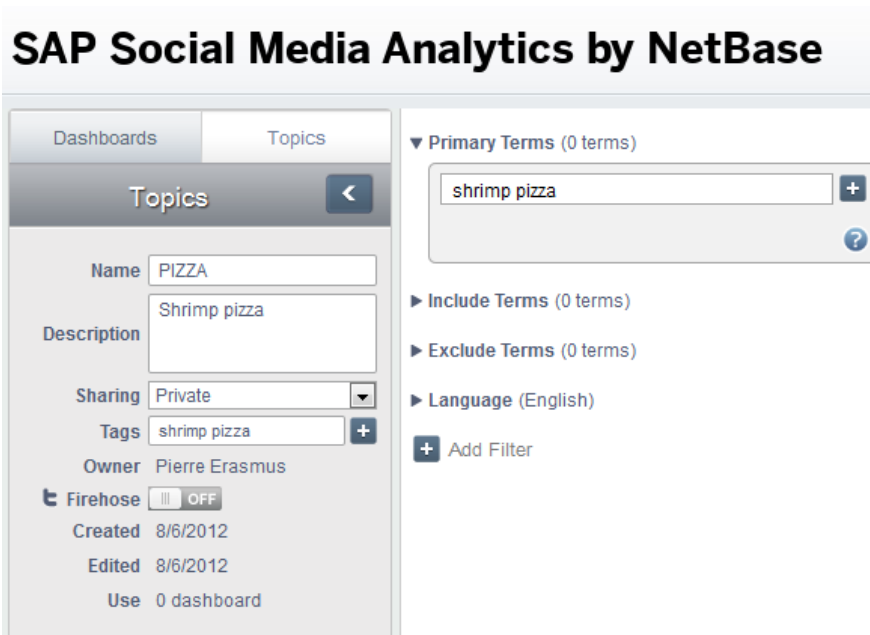
4. Configure SAP Social Media Analytics by NetBase

In our example, we will describe how to connect to a provider of social media data using an API. We will define a topic, organization, or product brand. We will extract the positive and negative consumer sentiments from Web sites such as Facebook, Tweeter, Amazon, Yahoo, and so on, using SAP Social Media Analytics by NetBase as a cloud provider of social media data.

4.1 Define a Topic

1. If you have a SAP Social Media Analytics by NetBase account, log in to the NetBase Insight Composer using the following URL: <https://sapsocialmediaanalytics.netbase.com/cb/cb2/>.
2. To create a new topic, choose the *Topics* tab and choose the  button.
3. Enter a name and description for your topic group. Topic names must be all capitals.
4. You can choose to share the topic with other users or keep it private.
5. Define tags to identify your topic.
6. Define primary terms. These are the actual terms that will be used during the social media search.
7. Define include and exclude terms.

The following is an example topic:



The screenshot shows the 'SAP Social Media Analytics by NetBase' interface. The 'Topics' tab is active, and a new topic is being created. The form includes the following fields and options:


- Name:** PIZZA
- Description:** Shrimp pizza
- Sharing:** Private (dropdown menu)
- Tags:** shrimp pizza (with a plus button to add more)
- Owner:** Pierre Erasmus
- Firehose:** OFF (toggle switch)
- Created:** 8/6/2012
- Edited:** 8/6/2012
- Use:** 0 dashboard

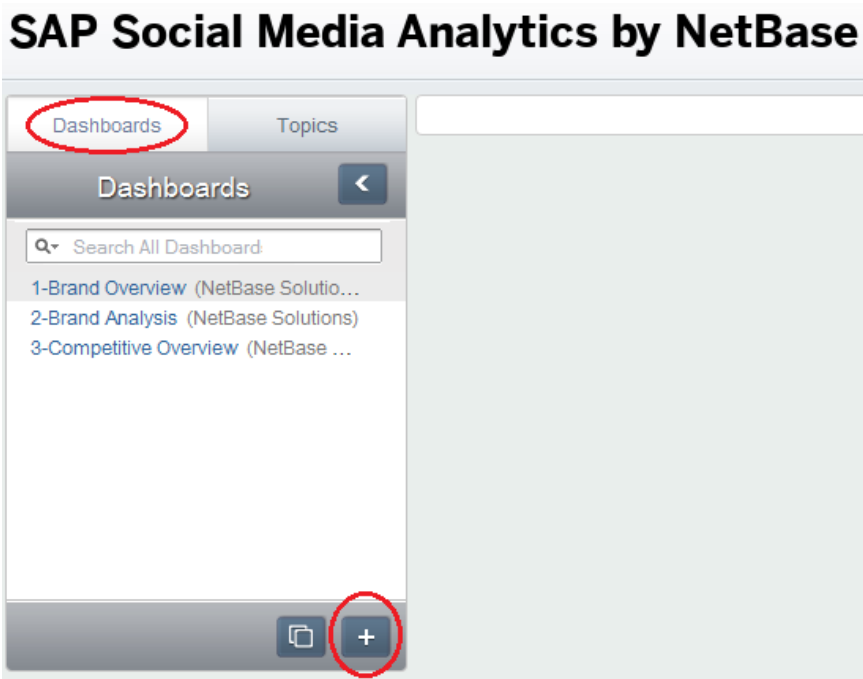
On the right side, there are sections for defining search terms:

- Primary Terms (0 terms):** A text input field containing 'shrimp pizza' and a plus button.
- Include Terms (0 terms):** A section with a right-pointing arrow.
- Exclude Terms (0 terms):** A section with a right-pointing arrow.
- Language (English):** A section with a right-pointing arrow.
- + Add Filter:** A button to add filters.


8. Save your entries.
The topic is displayed in the topic list on the *Topics* tab page.

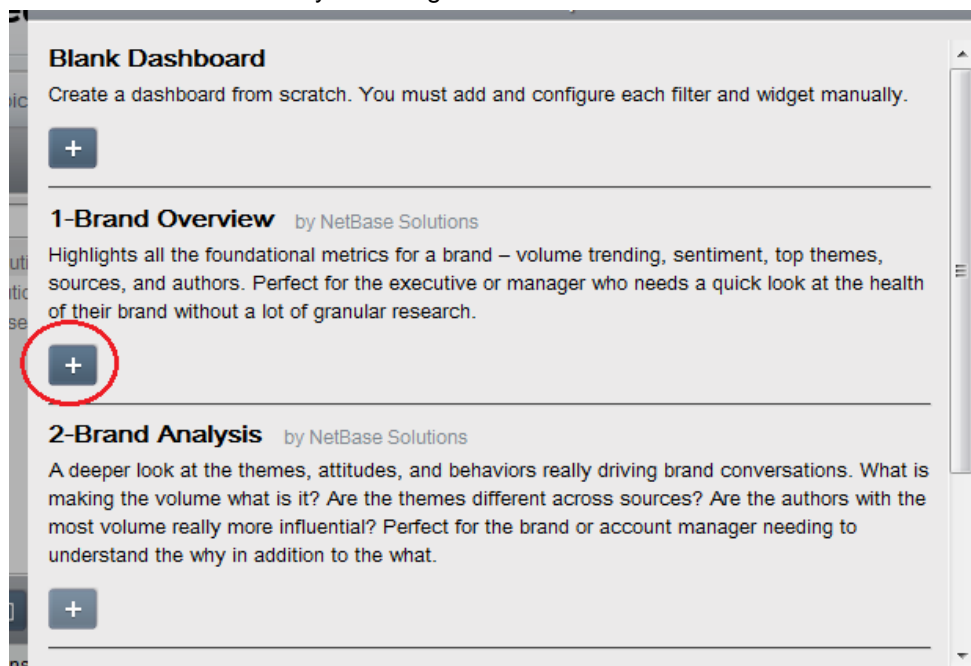
4.2 Test the Topic



1. To test if your topic can retrieve the correct data, choose the *Dashboards* tab and choose the  button as shown below:

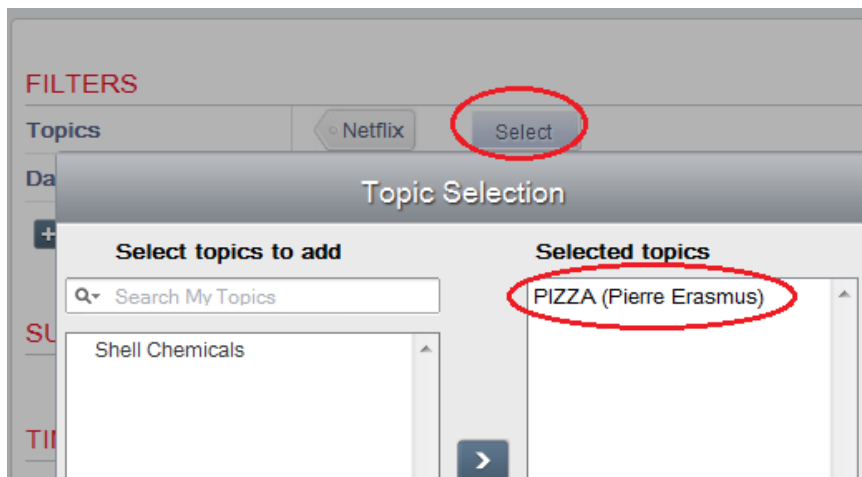


Depending on your needs, you can customize the dashboards. In our example, we only want to display the data for validation purposes.

2. Choose *Brand Overview* by choosing the  button as shown below:

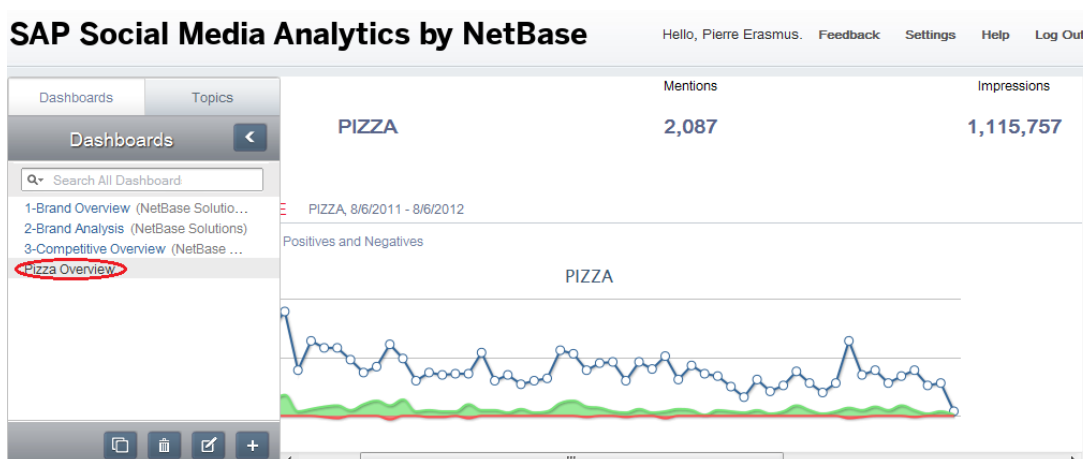


3. Enter a name.
4. You can choose to share the dashboard with other users or keep it private.
5. Choose the  button.
6. On the screen that appears, you select a topic for the dashboard. In the *FILTERS* area, choose *Select*, select the topic you want to add, and choose the  button as shown below:



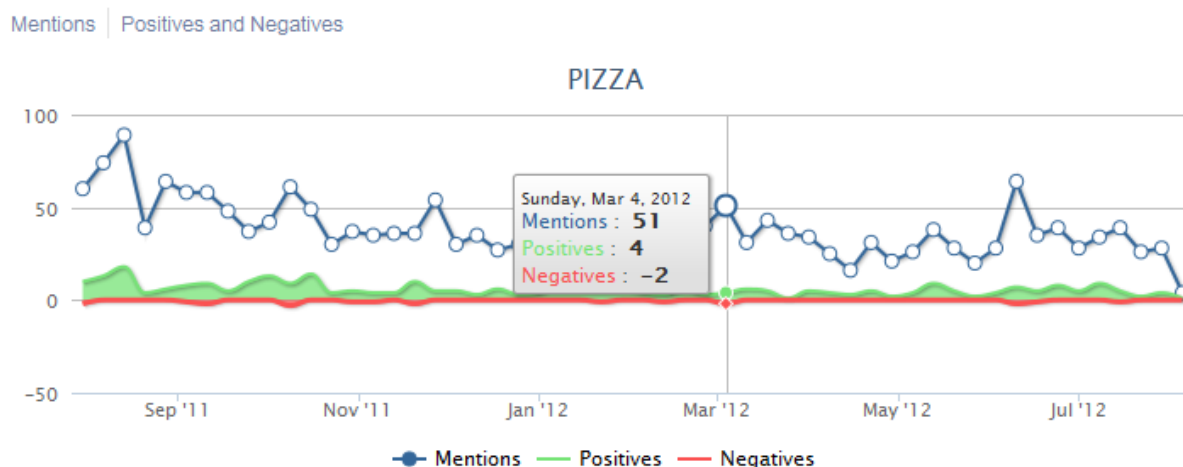
The dashboard will now use the data that is associated with the selected topic.

7. In the *Dashboards* area, select the dashboard to display the results as shown below:



In this example, there are 2,087 mentions of shrimp pizza and more than one million impressions.

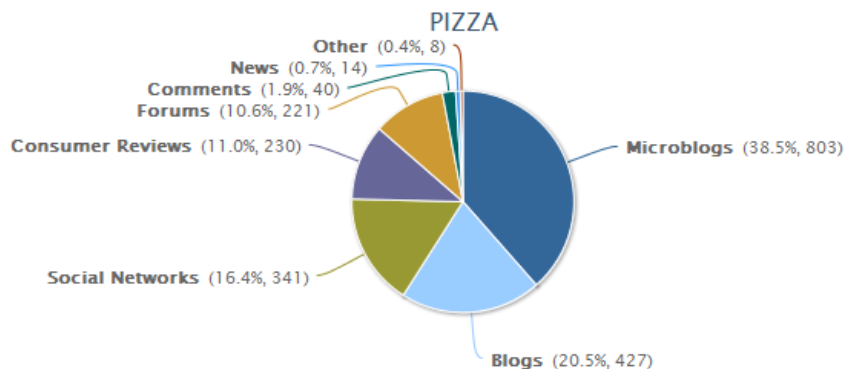
8. Select any date on the timeline to display the total number of neutral, positive, and negative mentions on that date as shown below:



There are also charts that provide statistics about the different sources of the data such as the one shown below:

SOURCES PIZZA, 8/6/2011 - 8/6/2012

Sources



We will not describe the other charts that are available in SAP Social Media Analytics by NetBase. The purpose of this guide is only to introduce SAP Social Media Analytics by NetBase as one possible option for using social media data in analytics and reporting.

5. Configure SAP Demand Signal Management

The main focus of this guide is to describe the configuration steps that are required to access social media data from SAP Demand Signal Management. Social media data is retrieved through an API. The API call in SAP Demand Signal Management is configured using a function module. The function module uses a Business Add-In (BAdI) to make the data accessible through a virtual InfoProvider. An example BAdI implementation is available and can be used to connect to SAP Social Media Analytics by NetBase as a provider of social media data.

5.1 Create a Business Add-In Implementation

1. Go to the *Business Add-Ins: Definitions* (SE18) transaction.
2. Enter `/DDF/SOCIAL_MEDIA_DEFN` as a BAdI name and choose *Change*.
3. On the screen that appears, right-click on *Implementations*, and in the context menu, choose *Create BAdI Implementation*.

Recommendation

We recommend that you copy the `/DDF/CL_NETBASE_EXAMPLE_BADI` example implementation that is available and modify it as needed.

4. Activate the enhancement implementation.
5. Open the enhancement implementation and enter the user name and password for the SAP Social Media Analytics by NetBase server in the code to be able to connect as shown below:

```
Method /DDF/SOCIAL_MEDIA_IF~GET_SOCIAL_MEDIA_DATA Active
1 method /DDF/SOCIAL_MEDIA_IF~GET_SOCIAL_MEDIA_DATA.
2
3
4 ***** These tables will contain the raw data coming from Netbase.
5 *****
6 DATA: positive_table TYPE /DDF/json_string_tt.
7 DATA: negative_table TYPE /DDF/json_string_tt.
8 DATA: buzz_table     TYPE /DDF/json_string_tt.
9 DATA: dates_table    TYPE /DDF/json_string_tt.
10
11
12 ***** IMPORTANT
13 ***** A connection to Netbase requires an account.
14 ***** Specify the credentials here.
15 *****
16 DATA: l_netbase_username TYPE string,
17        l_netbase_pwd     TYPE string.
18
19 l_netbase_username = 'your_username'.
20 l_netbase_pwd      = 'your_password'.
```

This code is used to retrieve the social media data through an API from SAP Social Media Analytics by NetBase and import it through the virtual InfoProvider. Note that the virtual InfoProvider does not store any data. Social media data can now be retrieved using BEx Queries.

5.2 Use the BI Content for Integrating with a Provider of Social Media Data

We will not describe in detail how to create BI Content objects such as InfoCubes or BEx Queries. The following BI Content objects are available for SAP Demand Signal Management and can be used for the integration with a provider of social media data:

- *Social Media Data* (/DSR/SMVP) InfoCube:

InfoCube	Techn. name / value	F...
▼ Social Media Data	/DSR/SMVP	
▼ Object Information		
• Version	◇ In Process	
• Save	⊕ Saved	
• Revised Version	≡ Active Version	
• Object Status	⊞ Active, executable	
▼ Settings		
• InfoCube type	Virtual InfoProvider	
• Subtype	Based on Function Module	
▼ Dimensions		
▶ Data Package	/DSR/SMVPP	
▶ Time	/DSR/SMVPT	
▶ Unit	/DSR/SMVPU	
▶ Dimension 1	/DSR/SMVP1	
▼ Navigation Attributes		
▼ Key Figures		
• Buzz	/DSR/BUZZ	
• Positive Consumer Sentiment	/DSR/POSISENT	
• Positive Buzz	/DSR/POSIBUZZ	
• Negative Buzz	/DSR/NEGABUZZ	
• Neutral Buzz	/DSR/NEUTRBUZZ	

This InfoCube is used by a BEx Query to retrieve consumer sentiments about a topic that is defined in SAP Social Media Analytics by NetBase. This InfoCube is of type virtual InfoProvider and is based on a function module. It receives key figures such as positive and negative consumer sentiments, and buzz (about topic, brand, or product).

- *Social Media Data* (/DSR/SMVP_SOCIAL_Q0008) BEx Query

Social media data can be accessed using SAP Data Services and could be configured as an API data source as shown below. We will not provide the instructions for this scenario in this guide. As of SAP Data Services 4.0 text data processing functionality is available to determine consumer sentiments.

```
PIZZA
https://sapsocialmediaanalytics.netbase.com/cb/api/runservices?user=eric.primeau@sap.com&password=AMvKBqXS&spec=[{"type": "unt", "id": "1001", "parameters": {"topics": ["PIZZA"], "filters": [{"type": "Domain", "domains": ["facebook.com"]}}]}]&pretty=true

{"lastUpdateTime": "1340055831000",
 "results": [
  {"data": {
    "metrics": [
      {"timeUnit": "Month",
       "columns": ["1314835200000", "1317427200000", "1320105600000", "1322697600000"],
       "dataset": [
         {"seriesName": "TotalBuzz",
          "set": [75857.0, 88661.0, 119748.0, 28545.0]},
         {"seriesName": "PositiveSentiment",
          "set": [15250.0, 16888.0, 22776.0, 5531.0]}
        ]
      }
    ]
  }
 ],
 "service": {
  "type": "MetricValue",
  "id": 1,
  "properties": {
    "metricSeries": ["TotalBuzz", "PositiveSentiment"], "timeUnits": ["Month"],
    "parameters": {"filter": {"alertDatetime": null, "publishedDate": {"start": "2011-09-09 00:00:00", "end": "2011-12-00:00:00"}}, "topicIds": ["58525"]}}}
 }
```




5.3 Integrate Social Media Data in SAP Demand Signal Management Reports

The following report is available in SAP Demand Signal Management and allows you to use social media data together with retailer point of sales data and analyze how social media affects sales:



1. You can find the report using the *Object Navigator* (SE80) transaction as shown below:

Object Navigator

← → |    Edit Object

MIME Repository

Repository Browser

Repository Information System






Tag Browser

Transport Organizer

Test Repository

Package

/DSR/UI_CONS

← → |     

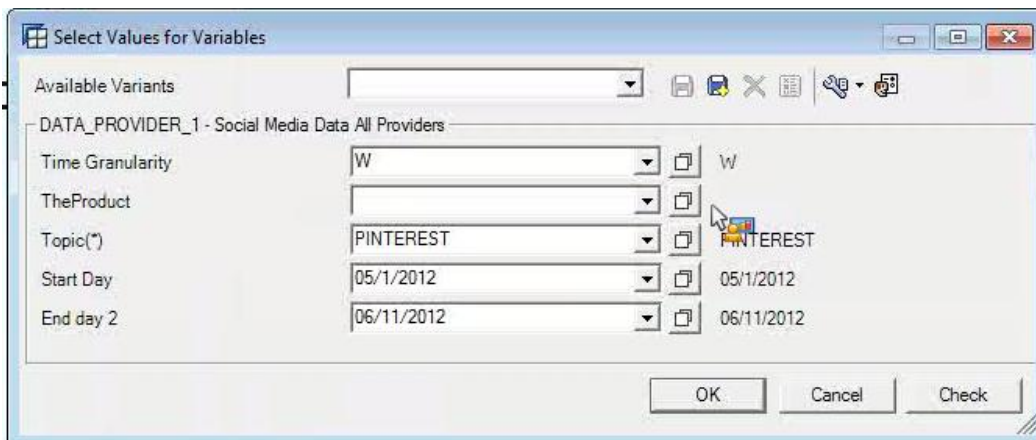
Object Name	Description
▼ /DSR/UI_CONS	Demand Signal Repository: UI Consumption
▶ Dictionary Objects	
▶ Class Library	
▶ Function Groups	
▼ Web Dynpro	
▶ Web Dynpro Components	
▼ Web Dynpro Applicat.	
▶ /DSR/WDA_CONS_LAUNCHPAD	Launchpad
▶ /DSR/WDA_CONS_OOSF_ANALYSIS	On-Shelf Availability Analysis by Location
▶ /DSR/WDA_CONS_OOSF_ANALYSIS_P	On-Shelf Availability Analysis by Product
▶ /DSR/WDA_CONS_OOSF_AVAIL	On-Shelf Availability by Location
▶ /DSR/WDA_CONS_OOSF_AVAIL_P	On-Shelf Availability by Product
▶ /DSR/WDA_CONS_OOSF_OVP	On-Shelf Availability (Old Version)
▶ /DSR/WDA_CONS_OOSK_ANALYSIS	Out-of-Stock Analysis by Location
▶ /DSR/WDA_CONS_OOSK_ANALYSIS_P	Out-of-Stock Analysis by Product
▶ /DSR/WDA_CONS_OOSK_AVAIL	Out-of-Stock Situations by Location
▶ /DSR/WDA_CONS_OOSK_AVAIL_P	Out-of-Stock Situations by Product
▶ /DSR/WDA_CONS_PRM_APP_V1	Promotion Analysis
▶ /DSR/WDA_CONS_PRODLAUNCH_OVP	Product Launch
▶ /DSR/WDA_CONS_SALES_ANALYSIS	Sales Analysis
▼ /DSR/WDA_CONS_SOC MEDIA	Sales Analysis with Social Media Data

2. You must integrate the report in the SAP NetWeaver Business Client. For more information about how to do this, see SAP Library for SAP NetWeaver on SAP Help Portal at <http://help.sap.com> under *SAP NetWeaver* → *SAP NetWeaver Platform* → *SAP NetWeaver Library: Function-Oriented View* → *Application Server* → *Application Server ABAP* → *UI Technologies in ABAP* → *Creating Mashups with the Page Builder* → *Creating Pages with the Page Builder* → *Integrating Pages into the SAP NetWeaver Business Client*.

5.4 Use the BEx Analyzer to Display Social Media Data

1. Open the BEx Analyzer and open the *Social Media Data* (/DSR/SMVP_SOCIAL_Q0008) BEx query.
2. Enter the values for the following variables that will be used to parse the data from the API (use only capital letters):
 - Time granularity: D for days, W for weeks, or M for months
 - Product: in this example, we are not entering a product
 - Topic: the topic that has been defined in SAP Social Media Analytics by NetBase

- Start and end dates: in SAP Social Media Analytics by NetBase, you can only analyze data for the past 12 months



The BEx Analyzer calls the API of SAP Social Media Analytics by NetBase using the function module and displays the negative and positive consumer sentiments, and the neutral buzz for each week in the selected period. A week starts and ends on the Sunday as shown below:

Social Media Data All Providers				
Author PRIMEAUE				
<input type="button" value="Chart"/> <input type="button" value="Filter"/> <input type="button" value="Information"/>				
Table				
Calendar Day	Negative Sentiments	Positive Sentiments	Neutral Buzz	
05/06/2012	2,975	14,549	51,867	
05/13/2012	2,556	15,384	52,462	
05/20/2012	2,653	14,405	48,240	
05/27/2012	2,465	13,335	45,966	
06/03/2012	2,417	13,118	47,967	
06/10/2012	211	1,063	4,165	

If you enter a day time granularity, the negative and positive consumer sentiments, and the neutral buzz for each day in the selected period is displayed as follows:

Calendar Day	Negative Sentiments	Positive Sentiments	Neutral Buzz
05/1/2012	493	2,387	8,415
05/2/2012	407	2,467	8,058
05/3/2012	602	2,506	8,926
05/4/2012	428	2,208	7,607
05/5/2012	236	1,162	4,548
05/6/2012	317	1,158	4,269
05/7/2012	472	2,276	8,043
05/8/2012	561	2,752	9,941
05/9/2012	483	2,527	8,702
05/10/2012	459	2,458	8,779
05/11/2012	439	2,210	7,738
05/12/2012	244	1,168	4,395
05/13/2012	208	1,105	3,944
05/14/2012	346	2,177	7,693
05/15/2012	387	2,350	7,926
05/16/2012	468	2,399	8,150
05/17/2012	544	3,679	12,947
05/18/2012	377	2,483	7,909
05/19/2012	226	1,191	3,893
05/20/2012	196	1,040	3,778
05/21/2012	402	2,371	7,792
05/22/2012	438	2,528	8,305
05/23/2012	422	2,487	7,949

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